Full-time Equivalents and Financial Costs Associated with Absenteeism, Overtime, and Involuntary Part-time Employment in the Nursing Profession

A Report prepared for the Canadian Nursing Advisory Committee (CNAC) by the Canadian Labour and Business Centre (CLBC)

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EXECUTIVE SUMMARY

In light of the current and looming shortage of nurses in Canada, *The Nursing Strategy for Canada* was developed to strengthen and maximize nursing human resources by implementing broad, planned evidence-based and long-term recruitment and retention initiatives. Within that strategy, the *Canadian Nursing Advisory Committee (CNAC)* was established to make recommendations for improving the quality of work life for Canadian nurses. To support its work, the committee commissioned a number of studies to increase its understanding of a select group of issues. Key among these is the financial costs of overtime, use of agency nurses, absenteeism and turnover.

The primary objective of this study was to provide quantitative estimates as to the extent and costs associated with absenteeism, overtime and involuntary part-time employment. In addition, the research examines issues of turnover and the use of agency nurses within the nursing profession.

Methodology

The research draws primarily upon the public use microdata files of Statistics Canada's Labour Force Survey (LFS). In this analysis all 12 monthly LFS surveys for the calendar year 2001 were used to produce estimates of overtime, absenteeism, part-time or temporary employment of nurses. Within the LFS public use microdata file there are three broad categories of health occupation that pertain to nurses. These are:

- Nurse Supervisors and Registered Nurses
- Technical and Related Occupations in Health (includes LNAs, LPNs, RNAs)
- Assisting Occupation in support of Health Services (includes Nurses Aides, Nursing Attendants and Nursing Orderlies)

Only the first of these categories, *Nurse Supervisors and Registered Nurses* is considered. While information on the employment characteristics of other nurses, particularly LNAs, LPNs and RNAs is of importance to CNAC, the broad occupational groups provided with the LFS microdata file do not allow for their inclusion in this analysis.

In 2001 there were an estimated 236,700 individuals employed as nursing supervisors or registered nurses. This does not include the approximately 1,900 nursing supervisors and registered nurses who were unemployed or the 7,500 who were not in the labour force.

The vast majority of employed nursing supervisors and registered nurses (96%) work in the health and social assistance sector. The estimated number of nurses in this sector is 227,400. Of that number, 186,100 are public employees, while 39,000 are private employees and 2,300 are self-employed. For purposes of this study the sample has been limited to employed nursing supervisors and registered nurses who are public employees in this sector. This represents 78.6 percent of all employed nursing supervisors and registered nurses.

As a supplement to the LFS analysis, the research also includes a case study of Queensway-Carleton Hospital, a 201-bed, full-service community hospital. Interviews were conducted with representatives of Ontario Nurses' Association, the Nurse Manager of the Surgical Unit, the Team Leader of the Staffing Office, and a representative of the Human Resource Office to examine issues of overtime, absenteeism, turnover and the use of agency nurses.

Publicly Employed RNs: An Overview of Selected Characteristics:

- Approximately 82 percent of publicly employed registered nurses are found in four provinces: Ontario (31%), Quebec (25%), British Columbia (15%) and Alberta (10%).

- Most registered nurses and nursing supervisors are female (93%). Quebec has the highest proportion of male nurses (10%).

- 44 percent of nurses who are public employees in Health care are aged 45 and over. 27 percent of employed nurses in the public heath care sector are aged 50 or older, and 11 percent are 55 or older.

- Among provinces, British Columbia has the oldest nursing workforce: 34 percent of its public health care sector nurses are aged 50 or older.

- The LFS indicates that 26 percent of publicly employed RNs in the health and social assistance sector are part-time workers (less than 30 hours per week). This is a much lower rate of part-time employment than that given by CIHI, using the Registered Nurses Database (RNDB), which indicates that 41 percent of RNs are part-time workers. The discrepancy is the result of different methods of determining part-time status.

Overtime

The Incidence of Overtime

Among publicly employed nursing supervisors and registered nurses in the health and social assistance sector, an average of 38,400 or 24 percent worked paid or unpaid overtime in any given week of 2001. This is somewhat higher than the incidence of overtime among the rest of the employed labour force, which is 20.5 percent.

In every province the incidence of overtime is higher among publicly employed RNs than the rest of the employed labour force. Nurses in Quebec have the lowest rate of overtime (19.7%) while nurses in Alberta have the highest (31%).

Nursing supervisors and registered nurses are more likely to work paid overtime than unpaid overtime. This is opposite of the pattern found among the rest of the employed labour force.

Publicly employed RNs under 35 years of age are least likely to work overtime (21%), while RNs aged 45 to 49 are the most likely to work overtime (29%). Across all age groups, overtime work is a common experience that pertains to at least one in four nurses each week.

Amount of Overtime

Each week an estimated 38,400 nursing supervisors and registered nurses work an average of 6.4 hours of overtime, including both paid and unpaid.

The total overtime hours (both paid and unpaid), amounts to more than 240,000 hours per week, and 12.7 million hours per year. This is equivalent to just over 7,000 full-time, full-year positions.

The largest share of overtime hours (72%), are remunerated through either pay or time in lieu. The estimated 9.2 million hours of paid overtime translates into the equivalent of 5,070 full-time, full-year jobs.

The wage costs of overtime in 2001 are estimated to fall between a low of $252.3 million and a high of $430.78 million.

Temporary Absence Due to Illness and Injury

An estimated 13,700 (7.4%) of all publicly employed nurses are absent each week due to illness or injury. The rate of absence due to illness and injury is highest among RNs age 55 and over. RNs working full-time have a rate of absence due to illness and injury that is 80 percent higher than the rate found among the overall full-time labour force (8.1% compared with 4.5%).

Compared to 47 broad categories of occupations, nursing supervisors and registered nurses have a higher rate of temporary absences due to illness and injury than any other group.

Lost hours due to illness and injury are estimated to total 311,364 hours per week (22.7 hours per absent nurse). It is further estimated that during the course of 2001, a total of 16.2 million hours, the equivalent of 8,956 full-time, full-year nursing positions were lost to illness and injury.

If the rate of absenteeism among nurses were at the same level as the overall full-time employed population (4.5%) the average number of RNs absent each week would fall to approximately 8,400 from 13,700 – a reduction of 5,300 nurses absent each week. 6.3 million hours or the equivalent of 3,481 full-time, full-year positions could be regained through a reduction in illness related absenteeism.

The Cost of Absence Due to Illness and Injury

Absentee wage costs amount to an estimated $325 to $440 million per year. Replacement costs associated with illness and injury related absenteeism could potentially range from a low of $325 million to $660 million per year.

Replacement costs could be significantly reduced by as much as $126 to $257 million per year if the rate of nurses' illness and injury related absenteeism was in line with other full-time employed Canadian workers. These costs would constitute direct savings to employers and could be used for additional staffing needs.

Involuntary Part-Time Employment

Twenty six percent of publicly employed nurses work part-time. Of those nurses that worked part-time, fifteen percent are involuntary part-time workers; that is, they could not find full-time work.

Involuntary part-time RNs work an average of 22 hours per week. If these involuntary part-time workers were converted to full-time workers this would have resulted in some 4.7 million additional hours of nursing practice in 2001. This is the equivalent of 2,592 full-time nursing positions.

Limitations of the Study and Future Work

The study was originally to attempt to estimate the number of full-time equivalent positions that could be created if nurses employed on a casual basis and agency nurse hours were converted to fulltime positions. Given the limitations of the labour force survey in addressing the issue of casual or agency nurses, this is clearly an area, which requires further work.

Case Study Results

The limited case study of the Queensway-Carleton Hospital did confirm that hospitals are expending considerable dollars on overtime and the purchase of nursing services. The case study does support the argument that it would be more efficient and productive to apply those dollars to increased resources within the hospital.

Case Study of Queensway-Carleton Hospital (QCH)

Background

As part of this study it was felt that a case study of one organization or employer would be useful to demonstrate the cost of overtime and absenteeism, turnover and the use of agency nurses. The QCH, a community hospital located in the rapidly-growing community of Kanata was selected as the case study. Interviews were conducted with representatives of Ontario Nurses Association, the Nurse Manager of the Surgical Unit, the Team Leader of the Staffing Office, and a representative of the Human Resource Office. The Director of Nursing for Medicine, Surgery, ICU, Geriatrics, Social Work and the Staffing Office provided additional information.

The QCH is a 201-bed, full-service community hospital providing medical/surgical care, intensive care, ambulatory care, psychiatric care and as of November 1999, maternal/newborn care and gynecological care.

The 25-year-old hospital is located in the western end of the City of Ottawa. Due to the rapid expansion of the community, the hospital has also experienced significant and unplanned growth. Planning is under way to increase the size of the hospital to a 300-bed facility. This will allow the QCH to meet the needs of the rapidly expanding catchement area.

Staff Complement

The QCH has a total of 1,300 employees. The nursing staff totals 467 and is comprised of 142 full-time RNs (30%), 184 part-time Registered Nurses (39%) and approximately 141 casual nurses (30%). The proportion of RNs working part-time or on a casual basis is considerably higher than the national average as reported by CIHI. This is a legacy from when the hospital first opened.

In addition to the RNs, there are 26 full-time Registered Practical Nurses (22%)[1], 31 part-time RPNs (26%), and 60 casual RPNs (51%) for a total of 117.

Staffing Procedure

The individual Nurse Managers have responsibility for staffing in their units. They will try to fill their schedules, compensating for vacation and planned absence, drawing from their own lists of available staff.

The Staffing Office, established in 1996 to deal with recalls from layoffs, has on-going responsibility for responding to unplanned needs for all nursing units. Replacements are required on a daily basis, as the hospital is faced with having to staff shifts every day due to vacancies or absences.

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[1] The registered Practical Nurse (RPN) is equivalent to a Licensed practical Nurse (LPN).

The replacement procedure is to call part-time nurses first to see if they would be willing to work extra time. Then, casual nurses are approached, followed by any full-time nurses who are willing to work overtime and then, as a last resort, the hospital would call on an agency.

Staffing Issues

The average age of RNs at the QCH is 44, while the average age of RPNs is 42. This is consistent with the national data. Many of the existing staff has 15, 20 or 25 years of service. There are a very few people, currently on staff, with less than five years service. The length of service of employees has implications for staffing in a number of ways. Since many of these employees are at their maximum weeks of vacation, this is one more factor to consider in an already overburdened system.

The age of the workforce also has implications for the rate of absenteeism due to work related injuries. Nurses are experiencing increased back, neck and arm strains. More money has recently been allocated to major purchases including lifts, to reduce the number of back strains. The QCH has also greatly improved its ability to bring injured staff back from leave with the introduction of modified work programs.

But more important, many of the staff will soon be approaching retirement. A growing percentage of nursing staff will soon be between the ages of 50 and 55 and the hospital is anticipating a wave of retirements within the next three to five years.

Given these demographics, the hospital has entered into a contract with H*Works, an American company that specializes in working with hospitals on the development and implementation of recruitment and retention strategies. Further evidence of the hospitals commitment in this area is the creation of a new position, Director of Recruitment and Retention. The Director in place since October 2001, will have responsibility for implementing strategies developed by H*Works.

Costs of Overtime and Use of Agency Nurses

In the calendar year 2001, the QCH's salary costs for nursing staff amounted to $20,520,112, which included $17,471,850 for RNs and $3,048,262 for RPNs. The hospital also incurred substantial costs related to overtime, use of purchased services, absenteeism and turnover.

The following is an attempt to demonstrate the financial cost of overtime and the use of agency nurses at the QCH. The absenteeism and turnover costs will be discussed in a more general fashion.

The QCH does not appear to have a routine standardized measurement to calculate costs across units. Data is collected and analyzed in a number of different administrative units.

Overtime

Overtime hours have increased dramatically over the past three years. In 1997-1998, overtime costs for nursing were $163,000. The following year, 1998-1999, overtime costs increased to $235,000. Prior to 1997-98, costs for overtime were estimated to be less than $75,000 a year.[2]

The total nursing overtime bill for 2000-2001 was $751,338; an estimate based on total overtime utilized multiplied by the average RN hourly wage. However, it is recognized that not all overtime can be eliminated, as some overtime will arise from contractual obligations or simply due to unanticipated circumstances.

The escalating overtime costs are a result of a number of factors including the nursing shortage, which results in vacancies as well as higher acuity and workload levels (including overload). This leads to high workload relief hours with limited casual staff available. According to the representatives of the Ontario Nurses' Association, 50% of nursing staff work overtime on a weekly basis in some form. This is twice the rate found in our analysis of the Labour Force Survey.

The following table identifies the types of overtime costs.

Types of Overtime Costs

OT1.5	Costs associated with workload, relief or vacancy replacement paid at time and one-half rate. Hours are either smaller portions added on to a full shift or they may be for an entire shift (50:50 ratio).
OT 2.0	Costs paid at double time associated with contractual obligations. Short periods of time only (i.e. one hour).
WK05	Reflects overtime associated with contractual obligations.
SC05	Reflects overtime associated with insufficient notice for shift changes or short shifting.
Call-back	Associated with speciality areas when on-call staff is required to return.
ST05	Overtime costs associated with statutory holiday premium pay.

The Director of Nursing for QCH has calculated the cost of overtime hours in the nursing areas (including specialty areas) for the fiscal year 2000-2001 and estimates it to be $576,248. This does not included overtime costs associated with callbacks and statutory holiday premium pay.

In the first quarter of 2001-2002, overtime costs are estimated at $170,947.
The annualized cost for the current fiscal year 2001-2002 is projected to be $683,788.[3]

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[2] Information provided by the Director of Nursing.
[3] For a more detailed analysis see Appendix 1 and 2.

Use of Agency Nurses

This is the option of last resort and occurs when the Staffing Office is unable to fill a shift with part-time, casual or full-time nursing staff. The Staffing Office estimates the QCH would require an average of three agency nurses per day.

The QCH estimates $174,500 on agency nurses in the 2000-2001 fiscal year. This includes $46,519 for sitters in the psychiatric unit. Projected costs for 2001-2002 are estimated to be $235,584.

In 2001, the cost of purchased nursing services was equivalent to 30% of total expenditures on overtime. Based on the first quarter data, agency costs will now represent 34% of overtime costs[4]. However, it was noted that it is becoming increasingly more difficult to obtain agency nurses and estimates may need to be revised.

During the course of the interviews it was stated that many full- and part-time staff do not like to work with agency nurses, as they believe they do not have the most up-to-date skills nor are they familiar with the hospital's procedures.

Absenteeism

Interviews with QCH staff reconfirmed what is already known. The nursing workplace is a very stressful place. The acuity of patients is higher. The numbers of patients with dementia has increased. In addition to the on-going shortage of nursing staff, there is also a lack of auxiliary help, i.e. porters, housekeeping, etc. This in turn, leads to nursing staff undertaking work which leads to increased injuries usually in the form of back or neck strains.

The Staffing Office estimates that 25-30% of absenteeism is related to stress and injuries. It is a rough estimate and could possibly be higher as there is no way of knowing for sure. Data on absenteeism and specifically days lost to work related injuries, was unavailable at this time.

Turnover

The turnover of staff within the hospital has been greatly reduced. The turnover rate for 1999 was 17%. In the following year, it was 26%. The hospital views this as an anomaly, as they were updating their database at that time and removing casual staff from their lists. Although final figures for 2001 are not complete, the Human Resource Office indicated that the turnover for RNs in the 2001 calendar year was 54 or almost 12% of staff, for RPNs it was 11 or 9.4%. The Staffing Office estimates 70% of staff moves are internal, from one job to another.

It is difficult to estimate the total cost to the employer of high turnover. The costs of vacancies have implications across the hospital – in the nursing units, the staffing office

[4] See Appendix 3 for more complete details.

and in the human resources office. There are many soft costs associated with lost productivity that cannot be calculated.

At this time, the QCH has no tracking in place to provide a detailed estimate of actual costs. The current study by H*Works will eventually provide some of the detail. However, the hospital has provided an estimate as to orientation costs. The hospital incurs both direct and indirect costs from turnover in the orientation period. It is not uncommon for new staff to accept an offer of employment and begin an orientation period while still "shopping" for what they perceive as a better position elsewhere.

A 10-day orientation session for a medical or surgical nurse would cost approximately $2,865. (This is based on a rate of $38.20/hr x 7.5 hours x10 days). A 21-day orientation session for a critical care nurse costs the hospital $8,022.

This does not cover the cost of the Nurse Manager's time, who would have responsibility for screening applicants, conducting interviews and reference checks and extending the offer. Nor does it cover the salary costs of instructors in the orientation program. The Director of Nursing estimates orientation costs per RN would run from a low of $3,000 to $10,000 for a critical care nurse.

Queensway-Carleton Hospital's Response

The QCH has undertaken its own analysis of the last fiscal year and has noted that overtime and agency nurses have cost the hospital $750,684. Calculations of only relief hours that incur overtime rates, including 6,000 hours of purchased services amounts to 28,889 hours. This could be converted to 12.2 full time equivalents and still achieve a savings of premium costs amounting to $273,185.

The following assumptions were used in analyzing the data. The hours associated with overtime costs are for RN costs primarily. Not all nursing units were included, only those hours and costs associated with five of the hospital nursing units. Purchased services are calculated from costs using $30 per hour.

Relief Pool

The hospital experimented with the use of a pool of nursing staff, who could provide relief staffing as required throughout the hospital for a trial period of two and a half years. The above calculations helped to support a decision to both increase the size of the pool and to make it a permanent feature. This was implemented effective January 21, 2002.

The relief pool is comprised of 12 full-time RN's and six part-time RNs. Members of the relief pool have to be experienced and have had some orientation to all aspects of the hospital.

The relief pool operates on 12-hour shifts. There has been a great deal of interest in the pool among staff. Currently, there are staff that have applied to be members, but are unable to join until their own units are filled. The backfilling requirements present an obstacle to the efficient operation of the relief pool.

The relief pool has eased some of the pressure from the Staffing Office. Previously, they had to fill every shift, every day. Now they are able to respond in a more efficient manner. However, there was some concern expressed by the Staffing Office that this has led to increased absenteeism since the relief pool was introduced.

Observations

It is clear that the QCH spends a substantial amount in both overtime and the use of agency nurses. This limited analysis does support the estimates that the total hours and costs associated with overtime, absenteeism, use of agency nurses and turnover are very significant.